

1. A three-piece golf ball comprising:

a core comprising a center and a thread windings layer, wherein said center has a compression in the range of about 60 PGA to 80 PGA and a weight in the range of about 27.5 grams to 28.5 grams, and wherein said thread windings layer has an unstressed thread dimension of about 0.020inches to 0.028inches by 1/16 of an inch, and has a 500% modulus between 220 to 280 p.s.i.;

a cover having a Shore D hardness in the range of about 63 Shore D to about 69 Shore D; and

a plurality of dimples arranged on the outer surface, with a first pattern of dimples associated with each pentagon, a second pattern of dimples associated with each square, and a third pattern of dimples associated with each triangle.

2. The golf ball of claim 1 wherein the center has a diameter in the range of about 1.340 inches to about 1.370 inches.
3. The golf ball of claim 1 wherein the core has a weight in the range of about 34.5 grams to about 35.5 grams.
4. The golf ball of claim 1 wherein the core has a compression in the range of about 60 PGA to about 80 PGA.
5. The golf ball of claim 1 wherein the core has a diameter in the range of about 1.555 inches to about 1.575 inches.

6. The golf ball of claim 1 wherein the cover comprises a blend of about 75% by weight of a high resilience ionomer and about 25% by weight of a very low modulus ionomer, wherein the high resilience ionomer is a copolymer of approximately 81% of an olefin with about 19% of an alpha, beta ethylenically unsaturated carboxylic acid, where acid groups of the high resilience ionomer are neutralized with a sodium ion, and wherein the very low modulus ionomer is a terpolymer of 67-70% by weight of ethylene, 20-21% by weight of n-butyl acrylate, and 12% by weight of methacrylic acid, where acid groups of the very low modulus ionomer are neutralized by a zinc ion.

7. The golf ball of claim 1 wherein the cover has a thickness of in the range of about 0.052 inches to about 0.063 inches.

8. The golf ball of claim 1 wherein the outer surface comprises a plurality of dimples arranged on the outer surface to form a dimple pattern, the plurality of dimples including

a first set of dimples, with each dimple in the first set having a single radius cross section;

a second set of dimples, with each dimple in the second set having a dual radius cross section; and

a third set of dimples, with each dimple in the third set having a single radius cross section.

9. The golf ball of claim 8 wherein

the dimples in the first set of dimples have a diameter of 0.156 inches and a major radius of 0.4148 inches;

the dimples in the second set of dimples have a diameter of 0.145 inches, a major radius of 0.7874 inches, and a minor radius of 0.1181 inches; and

the dimples in the third set of dimples have a diameter of 0.140 inches and a major radius of 0.3535 inches.

10. The golf ball of claim 8 wherein

the dimples in the first set of dimples have a diameter in the range of 0.150 inches to 0.160 inches, and a major radius in the range of 0.34 inches to 0.80 inches;

the dimples in the second set of dimples have a diameter in the range of 0.140 inches to 0.150 inches, a major radius in the range of 0.41 inches to 0.80 inches; and a minor radius in the range of 0.10 inches to 0.12 inches; and

the dimples in the third set of dimples have a diameter in the range of 0.135 inches to 0.145 inches, and a major radius in the range of 0.34 inches to 0.80 inches

11. The golf ball of claim 8 wherein the outer surface is divided into a plurality of polygonal configurations which include pentagons, squares and triangles, wherein a first pattern of dimples is associated with each pentagon, a second pattern of dimples is associated with each square, and a third pattern of dimples is associated with each triangle.

12. The golf ball of claim 8 wherein the dimples in the first set of dimples have a different size than the dimples in the third set of dimples.

13 The golf ball of claim 8 wherein the outer surface is divided into a polyhedron defined as a rhombicosadodecahedron and dimples are arranged using that pattern.

14. The golf ball of claim 8 wherein the total number of dimples is at least 402.

15. A method of preparing a golf ball comprising:

- a) producing a solid rubber center; wherein the center has a compression in the range of about 60 PGA to 80 PGA and a weight in the range of about 27.5 grams to 28.5 grams,
- b) wrapping the solid rubber center with thread windings in an open pattern to form the golf ball core layer,
- c) winding the thread windings around the solid rubber center with a thread tension from about 900 grams to 1100 grams to a thread winding thickness of between 0.20 inches and 0.26 inches, wherein the thread windings have an unstressed thread dimension of about $1/16^{\text{th}}$ of an inch width by about 0.020 inches to 0.028 inches height, and a 500% modulus between 220 to 280 p.s.i.;
- d) providing a ionomer mixture for a golf ball cover; wherein the ionomer mixture comprises a blend of 75% by weight of a high resilience ionomer and about 25% by weight of a very low modulus ionomer, wherein the

high resilience ionomer is a copolymer of approximately 81% of an olefin with about 19% of an alpha, beta ethylenically unsaturated caboxylic acid, where acid groups of the high resilience ionomer are neutralized with a sodium ion, and wherein the very low modulus ionomer is a terpolymer of 67-70% by weight of ethylene, 20-21% by weight of n-butyl acrylate, and 12% by weight of methacrylic acid, where acid groups of the very low modulus ionomer are neutralized by a zinc ion.

- e) compression molding the ionomer mixture to the golf ball core to produce the golf ball cover; wherein the cover has a Shore D hardness in the range of about 63 Shore D to about 69 Shore D;
- f) applying a dimple configuration to the outer surface of the golf ball cover, wherein the outer surface is divided into a polyhedron defined as a rhombicosadodecahedron and dimples are arranged using that pattern; and
- g) further processing the golf ball by steps such as pressure blasting, vibratory finishing, stamping of the logo, applying a primer, and applying a top coat.

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~~16~~. The method of claim 15 wherein in the production of the center the center has a diameter in the range of about 1.340 inches to about 1.370 inches.

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~~16~~. The method of claim 15 wherein in the formation of the core the core has a weight in the range of about 34.5 grams to about 35.5 grams.

17. The method of claim 15 wherein in the formation of the core the core has a compression in the range of about 60 PGA to about 80 PGA.

18. The method of claim 15 wherein in the formation of the core the core has a diameter in the range of about 1.555 inches to about 1.575 inches.

19. The method of claim 15 wherein in the production of the cover the cover has a thickness of in the range of about 0.052 inches to about 0.063 inches.

20. The method of claim 15 wherein in the application of the dimple configuration the total number of dimples is at least 402.

21. The method of claim 15 wherein in the application of the dimple configuration the outer surface comprises a plurality of dimples arranged on the outer surface to form a dimple pattern, the plurality of dimples including
a first set of dimples, with each dimple in the first set having a single radius cross section;

a second set of dimples, with each dimple in the second set having a dual radius cross section; and

a third set of dimples, with each dimple in the third set having a single radius cross section.

22. The method of claim 21 wherein in the application of the dimple configuration

the dimples in the first set of dimples have a diameter of 0.156 inches and a major radius of 0.4148 inches;

the dimples in the second set of dimples have a diameter of 0.145 inches, a major radius of 0.7874 inches, and a minor radius of 0.1181 inches; and

the dimples in the third set of dimples have a diameter of 0.140 inches and a major radius of 0.3535 inches.

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23. The method of claim 21 wherein in the application of the dimple configuration

the dimples in the first set of dimples have a diameter in the range of 0.150 inches to 0.160 inches, and a major radius in the range of 0.34 inches to 0.80 inches;

the dimples in the second set of dimples have a diameter in the range of 0.140 inches to 0.150 inches, a major radius in the range of 0.41 inches to 0.80 inches; and a minor radius in the range of 0.10 inches to 0.12 inches; and

the dimples in the third set of dimples have a diameter in the range of 0.135 inches to 0.145 inches, and a major radius in the range of 0.34 inches to 0.80 inches.

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24 The method of claim 21 wherein in the application of the dimple configuration the outer surface is divided into a plurality of polygonal configurations which include pentagons, squares and triangles, wherein a first pattern of dimples is associated with each pentagon, a second pattern of dimples is associated with each square, and a third pattern of dimples is associated with each triangle.

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25. The golf ball of claim 21 wherein in the application of the dimple configuration the dimples in the first set of dimples have a different size than the dimples in the third set of dimples.